recognized by those skilled in the art that the transmissive sensor 105 and associated reflective 115 element and absorptive element 117 can be built into upper and lower paper guides 111, 113, respectively, in the paper path 109 of a hard copy apparatus structure 300 (or be mounted elsewhere upstream of the printing zone of the hard copy apparatus). <u>Memory 100 is shown connected to transmissive sensor 105.</u> Line 303 represents a leading sheet of media and line 305 represents a trailing sheet of media having been brought to this stage of the input paper path 109 by the transport mechanism 103 (in fact, the sheets are in at least partial contact with the guides 111, 113). No paper is in the light beam 301 and the full intensity of the light hits the reflecting element 115 and absorptive element 117 associated with the sensor 105 when a sensor-size defined gap "G," between a first sheet 303 (having a trailing edge 303') and a second sheet 305 (having a leading edge 305') in the paper path 109 passes the sensor.

REMARKS

1. The Examiner has objected to the drawings under 37 CFR 1.83(a), asserting that the drawings must show every feature of the invention, including the "computer memory" in claim 14. In response, applicant has amended Fig. 3 to include "memory 100". Applicant has similarly amended the specification to note: "Memory 100 is shown connected to transmissive sensor 105." No new matter is added. Applicant respectfully requests that the above stated grounds for objection be withdrawn.

2. The Examiner has rejected Claims 1-14 under 35 U.S.C. 102(b) as being anticipated by Nagao et al. (Patent No. US 4,810,894). Nagao et al. discloses an invention which measures the width of a gap through which a film formed during manufacture, such as magnetic tape, is passed through. (See Col. 1, lines 6-12. Col. 1, lines 30-46. Col. 3, lines 22, 23. Claim 1)

Applicant respectfully submit that the Examiner has failed to establish a *prima facia* case for a rejection of Claims 1-14 under 35 U.S.C. 102(b) as being anticipated by Nagao et al. In order for prior art to inherently disclose the claimed

subject matter, a person following the disclosure must produce the claimed subject matter. *Dreyfus v. Sternau*, 149 USPQ 63, 63 (CCPA 1966). Even if the reference discloses the claimed subject matter but in such minute quantities as to go undetected, the reference does not negate the novelty of the claimed subject matter. *In re Seaborg*, 140 USPQ 659, 662 (CCPA 1964). *In re Felton*, 179 USPQ 295, 298 (CCPA 1973). Thus, the cited reference by the examiner must both identically describe applicant's invention and enable one skilled in the art to practice the invention. It is respectfully submitted that Nagao et al. does not describe Applicant's invention nor allow one skilled in the art to practice Applicant's invention and therefore the rejection should be withdrawn and the submitted claims should be allowed.

Fig. 1 in Nagao et al. shows that two lasers are beamed and reflected off a mirror and through a gap. However, Figures 4, 7, 8, and the rest of the disclosure of Nagao et al. make clear that the mirror is positioned above the film and not below any print media as shown in Applicant's invention. This is true because Nagao has nothing to do with measuring any transmissivity of light through any media. Instead, the lasers in Nagao et al. are used to measure a gap between a roller, film, and board. Obviously this gap could not be measured if the lasers shone through the film because a measurement of transmissivity would merely register the film as transparent and give a gap measurement equal to the size of the gap if no film were present. Therefore, Nagao et al. teaches away from measuring transmissivity, and therefore does not identically describe the Applicant's invention and is not prior art under 35 U.S.C. 102(b).

The invention disclosed in Nagao et al. also differs from Applicant's invention in a number of other ways. First, while Nagao et al. and the Applicant's invention both employ a reflective surface such a mirror, the use of such reflective surfaces are employed for different purposes. The mirrors in Nagao et al. are used to direct and channel lasers in a specific direction. In contrast, the Applicant's invention does not use a reflective surface as a channeling device. Instead, it measures light transmissivity and media thickness over a variety of different surfaces, such as a light reflective surface, light absorptive surface, and media guide surface, to create unique profiles to identify different media passing

under the optical sensor. In other words, it does not matter if there is some light scatter in the Applicant's invention. Also, the invention in Nagao et al. is merely a gap measurement device and does not try to identify different media, while Applicant's invention does identify different media. The device in Nagao et al. must also be calibrated using a known standard to plug in numerical values into a mathematical algorithm. In contrast, the Applicant's invention is not a gap measuring device, does not need calibrating using a known standard, and therefore does not employ a mathematical algorithm in such a manner. Instead, Applicant's invention creates a "profile" based on print media thickness and transmissivity over a variety of surfaces which is stored in a look up table. No such look up table, profiles, or light absorption surfaces are found in Nagao et al.. Finally, Nagao et al. employs focusing lenses and counters whereas Applicant's invention uses an optical scanner. In short, the two inventions are completely different and used for two very different purposes: physical measurement versus profile creation and media identification.

Insofar as Nagao et al. fails to teach the present invention, applicant respectfully submits that the Examiner has failed to establish a *prima facia* case for a rejection of Claims 1 - 14 under 35 U.S.C. 102(b) as being anticipated by Nagao et al. and that the rejection should be withdrawn and Claims 1 - 14 should be allowed.

3. Applicant believes the application is in condition for allowance and respectfully requests the same. If the Examiner is of a differing opinion he/she is hereby requested to conduct a telephonic interview with the undersigned attorney.

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March 14, 2003
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<u>AMENDED PAGE 7 **WITH MARKINGS TO SHOW AMENDMENT**</u>
<u>MADE IN RESPONSE TO OFFICE ACTION DATED JANUARY 15, 2003</u>

would be known in the art. The paper sensor 105 is preferably positioned in a linear transport region of the paper path 109.

[0022] A lower paper guide, or pivot,113 is positioned in the paper path 109 and subjacently to the scanning paper sensor 105 such that the sheet 101 passes between the two. The lower paper guide 113 includes a reflective element 115, such as a mirror, and a non-reflective (light absorptive) element 117, e.g., a black plastic or rubber insert. It will be recognized by those skilled in the art that the exact implementation will be dependent upon the wavelength of transmitted light from the paper sensor 105.

[0023] Turning to the alternative embodiment of FIG. 3, it will also be recognized by those skilled in the art that the transmissive sensor 105 and associated reflective 115 element and absorptive element 117 can be built into upper and lower paper guides 111, 113, respectively, in the paper path 109 of a hard copy apparatus structure 300 (or be mounted elsewhere upstream of the printing zone of the hard copy apparatus). <u>Memory 100 is shown connected to transmissive sensor 105.</u> Line 303 represents a leading sheet of media and line 305 represents a trailing sheet of media having been brought to this stage of the input paper path 109 by the transport mechanism 103 (in fact, the sheets are in at least partial contact with the guides 111, 113). No paper is in the light beam 301 and the full intensity of the light hits the reflecting element 115 and absorptive element 117 associated with the sensor 105 when a sensor-size defined gap "G," between a first sheet 303 (having a trailing edge 303') and a second sheet 305 (having a leading edge 305') in the paper path 109 passes the sensor.

[0024] In operation, a sheet 111 (FIG. 1) or 303, 305 (FIG. 3) of media is scanned with a light beam 301 (FIG. 3 only) from the sensor 105 (actively as in

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